



WRIGHT[®]
AMERICAN CRANE

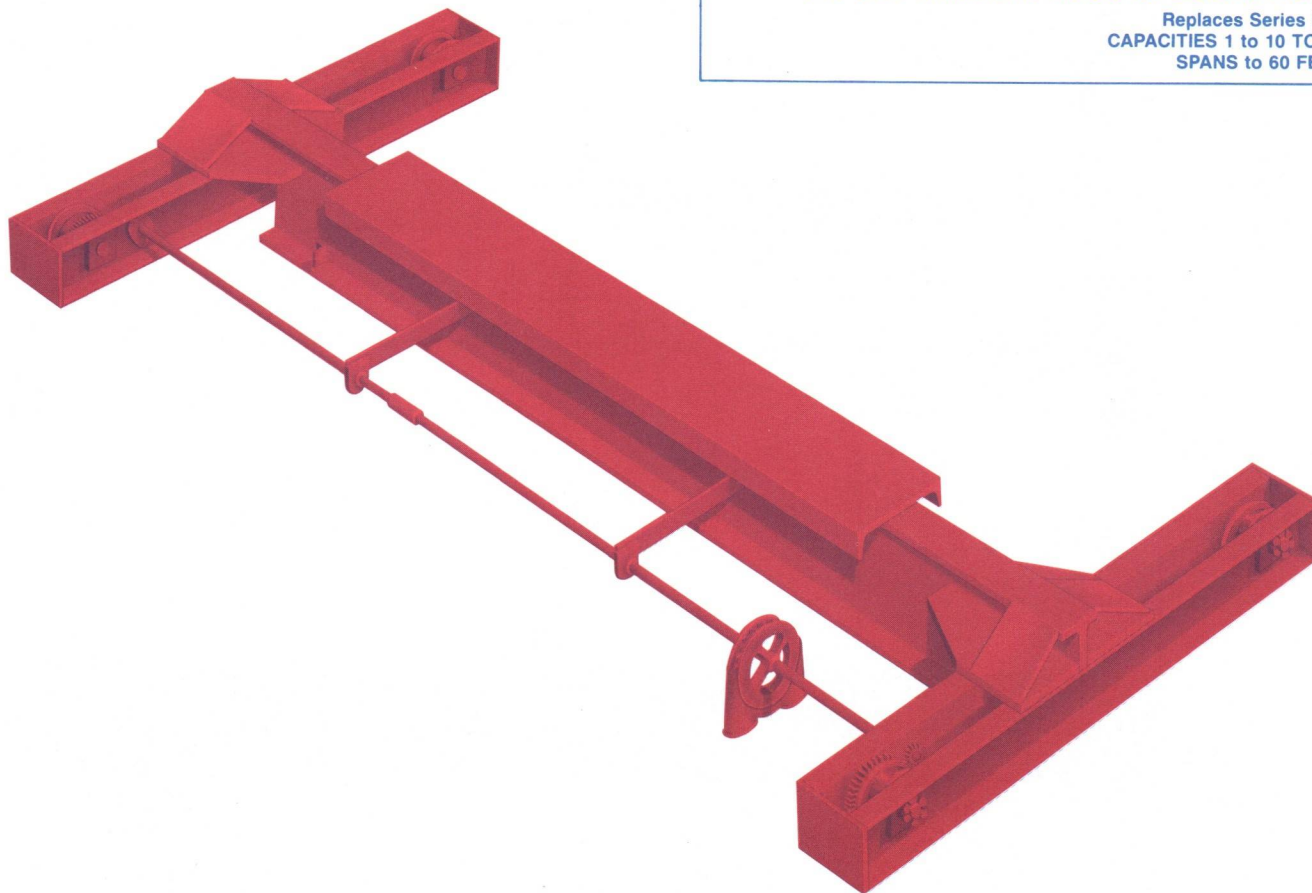
Issued 1-4-88
Supersedes 3-1-84

53-5

SERIES 535

Top Running Single Girder Crane
Hand Operated
For Use With Hand Hoists Or Electric Hoists

Replaces Series 532
CAPACITIES 1 to 10 TONS
SPANS to 60 FEET



The *Wright American* Series 535 top running single girder hand operated crane is engineered for any service where horizontal travel distance is not too great and where load needs to be frequently or rapidly lifted. The notched bridge beam design is best where overhead clearance and height of lift are important.

The Series 535 top running single girder crane, when combined with a *Wright American* electric trolley hoist is an excellent installation where it is practical to support crane rails from building columns.

All crane components are selected to give top performance, long, dependable service, and lowest maintenance.

The Series 535 crane is offered in capacities from one through ten tons, with spans up to 60 feet.

Bridge consists of heavy section beam, rigidly welded to the end truck, reinforced with welded gusset plates to provide in-square operation.

The end trucks are of welded steel channel construction, equipped with diaphragms, jig welded and bored to provide alignment of wheels, axles and drive shaft. Wheel and gear

replacement is accomplished without dismantling end trucks because of easy-to-remove axle.

The end truck wheels are double flange alloy steel with hardened tapered treads. Wheels are equipped with prelubricated tapered roller bearings, two to each wheel.

The drive shaft is geared to both end trucks to provide uniform travel. Handwheel is operated from the floor by pulling on an endless hand chain. The operating wheel, which may be located in any convenient location on the cross shaft, is equipped with swing chain guide that permits reasonable side pulling and rapid handling of chain without restricting the passage of the chain through the guide.

Standard electrical equipment includes manually operated fused mainline disconnect switch with lockout provision and flat wire festoon tagline bridge electrification.

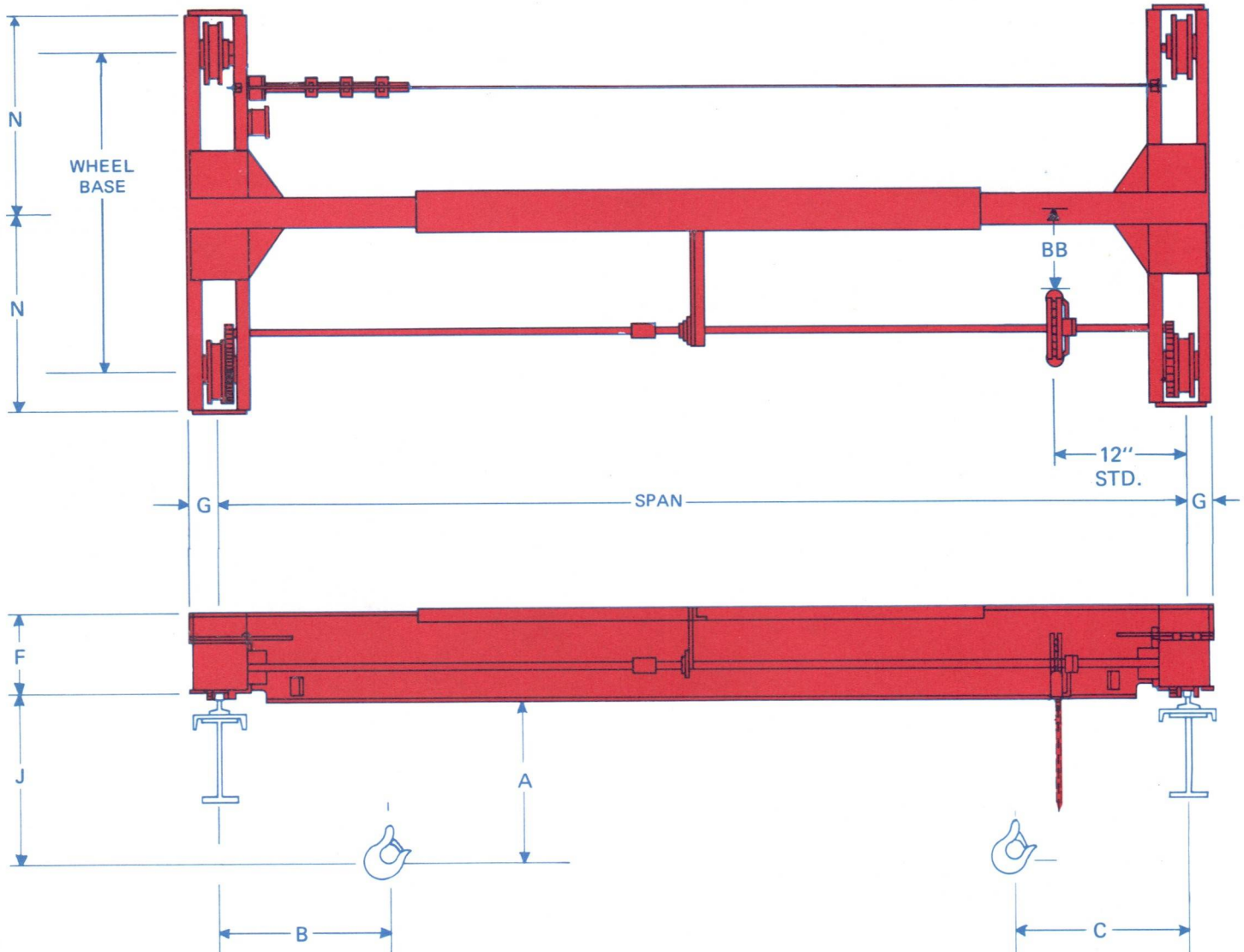
The Series 535 cranes are custom designed using engineered components, which are built to provide a square, exact span and true alignment. Each crane is fully assembled before shipment.



SERIES 535 Top Running Single Girder Crane
Hand Operated For Use With Hand Hoists Or Electric Hoists

53-6 Issued 1-4-88

**1 to 10
TONS**



A dimensions represent hoist headroom. Refer to hoist data pages.

B and C dimensions represent hoist end approach. Refer to dimension on *Wright American*, *Wright-Way*® or *Work-rated* hoist data pages. B and C dimensions based on tagline bridge electrification, end approach dimensions vary according to tagline tow arm location on hoist and tagline trolley stack-up.

NOTE: Minimum OSHA clearance between crane and obstruction requires 2" lateral and 3" overhead.

Standard crane does not include runway collector bracket and runway collectors. See modification and accessories section. Left-hand runway is standard location of runway collectors.

Order by Product Number. Specify: Exact span, runway rail and beam size, required drop of handchain (15'-0" drop standard).

State from which runway beam mainline conductors are located. (*Wright* standard on left hand runway.) Power supply, horsepower of all motors, and all optional equipment desired.

End Truck Product Number	Wheel Tread Dia. (In.)	Wheel Base (In.)	Max. ASCE Rail	G (In.)	N (In.)	BB (In.)
4300370	8	60	40 #/Yd	5	36	19
4300380	8	100	40 #/Yd	5-3/4	56	39
4300390	10	60	40 #/Yd	5-1/2	37-3/8	18
4300400	10	60	60 #/Yd	5-1/4	37-3/8	18
4300410	10	100	40 #/Yd	6-1/2	57-3/8	38
4300420	10	100	60 #/Yd	6-1/2	57-3/8	38

- (a) If hoist weight exceeds listed maximum, contact factory.
- (b) Wheel loads include:
 - (1) 15% live load impact allowance
 - (2) 10% dead load allowance (1/2 crane wt. + max. hoist wt.)
- (c) If crane is used with hand hoist, impact allowances need not be included.
- (d) Refer to *Wright* structural beam design guide for other requirements.
- (e) Dimensions approximate

Cap. (Tons)	Max. Span (Ft.)	Crane Product Number	End Truck Product Number	Bridge Beam	Capping Channel	F (In.)	J (In.)	Beam Selection (a) Based on Max. Hoist Wt. of: (Lbs.)	Net Wt. (Lbs.)	Wheel (b) Load (Lbs.)
1.0	19	5350010	4300370	S10x25.4 #	—	10	A+0	1290	1510	2275
	22	5350020	4300370	S12x31.8 #	—	11	A+1		1780	2349
	27	5350030	4300370	S15x42.9 #	—	13	A+2		2290	2489
	31	5350040	4300370	S18x54.7 #	—	18	A+0		2880	2651
	35	5350050	4300370	S20x66 #	—	18	A+2		3550	2836
	38	5350060	4300370	S18x54.7 #	C8x11.5 #	18-1/4	A+0		3780	2899
	40	5350070	4300370	S20x66 #	C10x15.3 #	18-1/4	A+2		4560	3114
	42	5350080	4300380	S20x66 #	C10x15.3 #	18-1/4	A+2		5380	3339
	47	5350090	4300380	S24x80 #	C10x15.3 #	22-1/4	A+2		6380	3614
	52	5350100	4300380	S24x80 #	C10x15.3 #	22-1/4	A+2		6982	3780
56	5350110	4300380	W27x84 #	C15x33.9 #	25-1/4	A+1-3/4	8568	4216		
60	5350120	4300380	W30x99 #	C15x33.9 #	25-1/2	A+4-3/4	9973	4602		
2.0	17	5350130	4300370	S12x31.8 #	—	11	A+1	2000	1560	3829
	21	5350140	4300370	S15x42.9 #	—	13	A+2		1970	3942
	25	5350150	4300370	S18x54.7 #	—	18	A+0		2500	4088
	28	5350160	4300370	S20x66 #	—	18	A+2		3010	4228
	32	5350170	4300370	S15x42.9 #	C8x11.5 #	13-1/4	A+2		2930	4206
	38	5350180	4300370	S18x54.7 #	C8x11.5 #	18-1/4	A+0		3780	4439
	40	5350190	4300370	S20x66 #	C10x15.3 #	18-1/4	A+2		4560	4654
	42	5350200	4300380	S20x66 #	C10x15.3 #	18-1/4	A+2		5380	4880
	47	5350210	4300380	S24x80 #	C12x20.7 #	22-1/4	A+2		6380	5155
	52	5350220	4300380	S24x80 #	C12x20.7 #	22-1/4	A+2		7228	5388
56	5350230	4300380	W27x84 #	C15x33.9 #	25-1/4	A+1-3/4	8568	5756		
60	5350240	4300380	W30x99 #	C15x33.9 #	25-1/2	A+4-3/4	9973	6143		
3.0	15	5350250	4300370	S12x31.8 #	—	11	A+1	2000	1490	4960
	18	5350260	4300370	S15x42.9 #	—	13	A+2		1810	5048
	22	5350270	4300370	S18x54.7 #	—	18	A+0		2310	5185
	25	5350280	4300370	S20x66 #	—	18	A+2		2790	5317
	32	5350290	4300370	S15x42.9 #	C8x11.5 #	13-1/4	A+2		2930	5356
	36	5350300	4300370	S18x54.7 #	C8x11.5 #	18-1/4	A+0		3630	5548
	40	5350310	4300370	S20x66 #	C10x15.3 #	18-1/4	A+2		4560	5804
	42	5350320	4300380	S20x66 #	C10x15.3 #	18-1/4	A+2		5380	6030
	46	5350330	4300380	S24x80 #	C10x15.3 #	22-1/4	A+2		6334	6292
	52	5350340	4300380	S24x80 #	C12x20.7 #	22-1/4	A+2		7228	6538
56	5350350	4300380	W27x102 #	C15x33.9 #	25-1/2	A+2	9577	7184		
60	5350360	4300380	W30x116 #	C15x33.9 #	25-1/2	A+5	10654	7480		
4.0	16	5350370	4300370	S15x42.9 #	—	13	A+2	2400	1710	6390
	19	5350380	4300370	S18x54.7 #	—	18	A+0		2100	6498
	23	5350390	4300370	S20x66 #	—	18	A+2		2640	6646
	29	5350400	4300370	S15x42.9 #	C8x11.5 #	13-1/4	A+2		2740	6674
	36	5350410	4300370	S18x54.7 #	C10x15.3 #	18-1/4	A+0		3780	6960
	40	5350420	4300370	S20x66 #	C12x20.7 #	18-1/4	A+2		4790	7237
	42	5350430	4300380	S20x66 #	C12x20.7 #	18-1/4	A+2		5534	7442
	48	5350440	4300380	S24x80 #	C12x20.7 #	22-1/4	A+2		6775	7783
	52	5350450	4300380	S24x80 #	C15x33.9 #	22-1/2	A+2		7856	8080
	56	5350460	4300380	W27x102 #	C15x33.9 #	25-1/2	A+2		9577	8554
60	5350470	4300380	W30x116 #	C15x33.9 #	25-1/2	A+5	10654	8850		
5.0	15	5350480	4300370	S15x42.9 #	—	13	A+2	3000	1660	7857
	18	5350490	4300370	S18x54.7 #	—	18	A+0		2030	7958
	21	5350500	4300370	S20x66 #	—	18	A+2		2500	8089
	27	5350510	4300370	S15x42.9 #	C10x15.3 #	13-1/4	A+2		2720	8148
	33	5350520	4300370	S18x54.7 #	C10x15.3 #	18-1/4	A+0		3540	8374
	36	5350530	4300370	S20x66 #	C10x15.3 #	18-1/4	A+2		4200	8555
	40	5350540	4300370	S20x66 #	C12x20.7 #	18-1/4	A+2		4790	8717
	42	5350550	4300380	S20x66 #	C15x33.9 #	18-1/2	A+2		6029	9058
	44	5350560	4300380	S24x80 #	C12x20.7 #	22-1/4	A+2		6341	9144
	48	5350570	4300380	S24x80 #	C15x33.9 #	22-1/2	A+2		7350	9421
52	5350580	4300380	S24x80 #	C15x33.9 #	22-1/2	A+2	7856	9560		
56	5350590	4300380	W27x102 #	C15x33.9 #	25-1/2	A+2	9577	10034		
60	5350600	4300380	W30x116 #	C15x33.9 #	25-1/2	A+5	10654	10330		
6.0	14	5350610	4300390	S15x42.9 #	—	15	A+0	3100	1850	9114
	16	5350620	4300390	S18x54.7 #	—	15-1/2	A+2-1/2		2150	9196
	19	5350630	4300390	S20x66 #	—	20	A+0		2560	9309
	24	5350640	4300390	S15x42.9 #	C10x15.3 #	15-1/4	A+0		2772	9367
	31	5350650	4300390	S18x54.7 #	C10x15.3 #	15-3/4	A+2-1/2		3620	9601
	33	5350660	4300390	S20x66 #	C10x15.3 #	20-1/4	A+0		4180	9755
	36	5350670	4300390	S24x80 #	C10x15.3 #	24-1/4	A+0		4975	9973
	40	5350680	4300390	S24x80 #	C12x20.7 #	24-1/4	A+0		5620	10151
	41	5350690	4300410	S24x80 #	C12x20.7 #	24-1/4	A+0		6434	10374
	47	5350700	4300410	S24x80 #	C15x33.9 #	24-1/2	A+0		7648	10708
52	5350710	4300410	S24x80 #	C15x33.9 #	24-1/2	A+0	8276	10881		
56	5350720	4300410	W27x102 #	C15x33.9 #	27-1/2	A+0	9997	11354		
60	5350730	4300410	W30x116 #	C15x33.9 #	27-1/2	A+3	11413	11743		
7.5	15	5350740	4300390	S18x54.7 #	—	15	A+2-1/2	3100	2090	10905
	18	5350750	4300390	S20x66 #	—	20	A+0		2490	11015
	25	5350760	4300390	S18x54.7 #	C8x11.5 #	15-3/4	A+2-1/2		3040	11166
	28	5350770	4300390	S18x54.7 #	C10x15.3 #	15-3/4	A+2-1/2		3380	11260
	31	5350780	4300390	S20x66 #	C10x15.3 #	20-1/4	A+0		3990	11427
	36	5350790	4300390	S20x66 #	C12x20.7 #	20-1/4	A+0		4640	11606
	38	5350800	4300390	S24x80 #	C12x20.7 #	24-1/4	A+0		5410	11817
	40	5350810	4300390	S24x80 #	C15x33.9 #	24-1/2	A+0		6055	11995
	44	5350820	4300410	S24x80 #	C15x33.9 #	24-1/2	A+0		7282	12332
	48	5350830	4300410	S24x80 #	C15x33.9 #	24-1/2	A+0		7771	12467
52	5350840	4300410	S24x106 #	C15x33.9 #	24-1/2	A+1/2	9628	12978		
56	5350850	4300410	W27x102 #	C15x33.9 #	27-1/2	A+0	9997	13079		
60	5350860	4300410	W30x116 #	MC18x42.7 #	27-1/2	A+3	11902	13603		
10.0	13	5350870	4300390	S18x54.7 #	—	15-1/2	A+2-1/2	3200	1975	13803
	16	5350880	4300390	S20x66 #	—	20	A+0		2340	13904
	20	5350890	4300390	S18x54.7 #	C8x11.5 #	15-3/4	A+2-1/2		2688	13999
	22	5350900	4300390	S18x54.7 #	C10x15.3 #	15-3/4	A+2-1/2		2930	14066
	27	5350910	4300390	S20x66 #	C10x15.3 #	20-1/4	A+0		3629	14258
	30	5350920	4300390	S20x66 #	C12x20.7 #	20-1/4	A+0		4087	14384
	35	5350930	4300390	S24x80 #	C12x20.7 #	24-1/4	A+0		5069	14654
	40	5350940	4300390	S24x80 #	C15x33.9 #	24-1/2	A+0		6170	14957
	42	5350950	4300410	S24x80 #	C15x33.9 #	24-1/2	A+0		7037	15195
	48	5350960	4300410	S24x106 #	C15x33.9 #	24-1/2	A+1/2		9018	15740
52	5350970	4300410	W27x102 #	C15x33.9 #	27-1/2	A+0	9420	15850		
55	5350980	4300410	W27x102 #	MC18x42.7 #	27-1/2	A+0	10340	16104		
60	5350990	4300410	W30x116 #	MC18x42.7 #	27-1/2	A+3	11902	16533		



SERIES 535 Top Running Single Girder Crane
Hand Operated For Use With Hand Hoists
Or Electric Hoists

53-8 Issued 1-4-88

**1 to 10
TONS**

STANDARD EQUIPMENT SPECIFICATIONS

DESIGN FACTORS Standard capacity ratings shall represent the net rated load at the hook of any type of hoist with the same load rating installed on the crane having a hoist trolley weight within the established limits. The crane shall be so designed that the load carrying parts, except structural members and hoisting ropes and gearing, shall be designed so that the calculated static stress in the material, based on the rated load, shall not exceed 20% of the published average ultimate strength of the material. This limitation of stress provides a margin to allow for variations in the properties of materials, manufacturing and operating conditions, and design assumptions. However, under no condition shall the crane be loaded beyond its rated capacity.

BEAM Bridge beam shall be designed in accordance with latest specifications of the Crane Manufacturers Association of America and shall be of standard structural shapes, constructed in accord with AISC specifications. Under full load the beam deflection shall not exceed 1/600 of the span. Bridge beam shall be selected structural steel member and shall provide level and straight tread surfaces for the hoist trolleys. The bridge beam shall be braced and welded to maintain squareness with the trucks. Bridge beam shall have adequate lateral stiffness with minimum lateral moment of inertia of 1/20 that of the vertical moment of inertia.

END TRUCKS The end truck frame shall be welded from structural shapes into a single unit as to prevent distortion and mismatch of gears under maximum rated load. End truck wheelbase shall be a minimum of 1/8 of the crane span. One wheel in each truck shall be geared and meshed with a pinion.

The truck shall contain diaphragm members welded to truck frames to maintain alignment and distribute truck loads uniformly on inner and outer truck member. The truck shall be designed so that the drop of the truck will be limited to one inch in case of axle or wheel failure. Attachment of end truck to bridge beam shall be by welding to insure true alignment.

CRANE WHEELS Crane wheels shall be double-flange alloy steel and have tapered tread surfaces hardened to 375 to 425 Brinell. Each wheel shall be supported on tapered roller bearings mounted on stationary axles suitable to take radial and thrust loads. The wheels shall be lubricated at the factory with sodium-base grease and provided with a suitable reservoir of lubricant to eliminate the need for field lubrication. Wheel axles must have mounting nuts for bearing adjustment. Wheel mounting shall be designed so that axles and wheels can be removed without disturbing other truck elements of their alignment. Wheel treads shall be smooth, true and uniform within .010 inch tread diameter on all wheels.

RUNWAYS The crane runway, runway rails, and stops shall be furnished and installed by the user. The runway rails shall be straight, parallel, level, and at the same elevation. The distance center to center and the elevation shall be within a tolerance of plus or minus 1/8". The runway rails should be standard rail sections of a proper size for the crane to be installed and must be provided with proper rail splices.

The crane runway shall be designed with sufficient strength and rigidity to prevent undue lateral or vertical deflection.

WELDING Welding shall be done by certified welders and shall be in accordance with the American Welding Society standards. All welds shall be ductile, shall have good weld penetration free of cracks and undercuts, and the welds shall manifest workmanlike appearance.

CRANE DRIVE Hand driven crane drive shall be by pulling on an endless chain. Chain wheel shall be equipped with a swinging chain guide to effectively prevent "gagging" of the chain when being rapidly handled. Operating wheel shall be attached to a squaring shaft extending the length of the bridge. A pinion shall be keyed to each end of the shaft to engage the gear on the drive wheels.

DRIVE SHAFT The drive shaft shall be supported on prelubricated ball bearings. It shall be designed for a maximum torsional stress of 6,000 psi. The drive shaft shall be so arranged and designed that the maximum torsional twist angle in the drive shaft, when referred to the drive wheels of the crane, shall not exceed one degree of the wheel rotation under maximum rated load regardless of load location.

BEARING LIFE All bearings in the crane wheels, and those supporting the squaring shafts shall be designed for 3,000 hours B-10 bearing life minimum.

GEARING All gears shall be cut from solid blanks with 20 degree pressure angle involute shape for high strength and shall comply with AGMA specifications for load ratings.

ELECTRICAL CONTROLS Fusible manual disconnect shall be mounted on the crane.

BRIDGE CONDUCTORS AND WIRING Flat wire festoon tagline bridge conductors shall be provided with the crane to provide fully insulated bridge electrification. All other wiring of the crane shall be in rigid or flexible conduit in accordance with National Electrical Code.

PAINTING The crane before shipment shall be painted with one coat of red semi-gloss lead free enamel.

OPERATING AND MAINTENANCE Proper erection instructions, parts list and maintenance instructions will be furnished with the crane.

WARNING:

Equipment described herein is not designed for, and should not be used for lifting, supporting, or transporting humans. Modifications to upgrade, rerate, or otherwise alter the hoist or crane equipment shall be authorized only by the original manufacturer or qualified professional engineer.

Failure to comply with any one of the limitations noted herein may result in serious bodily injury.



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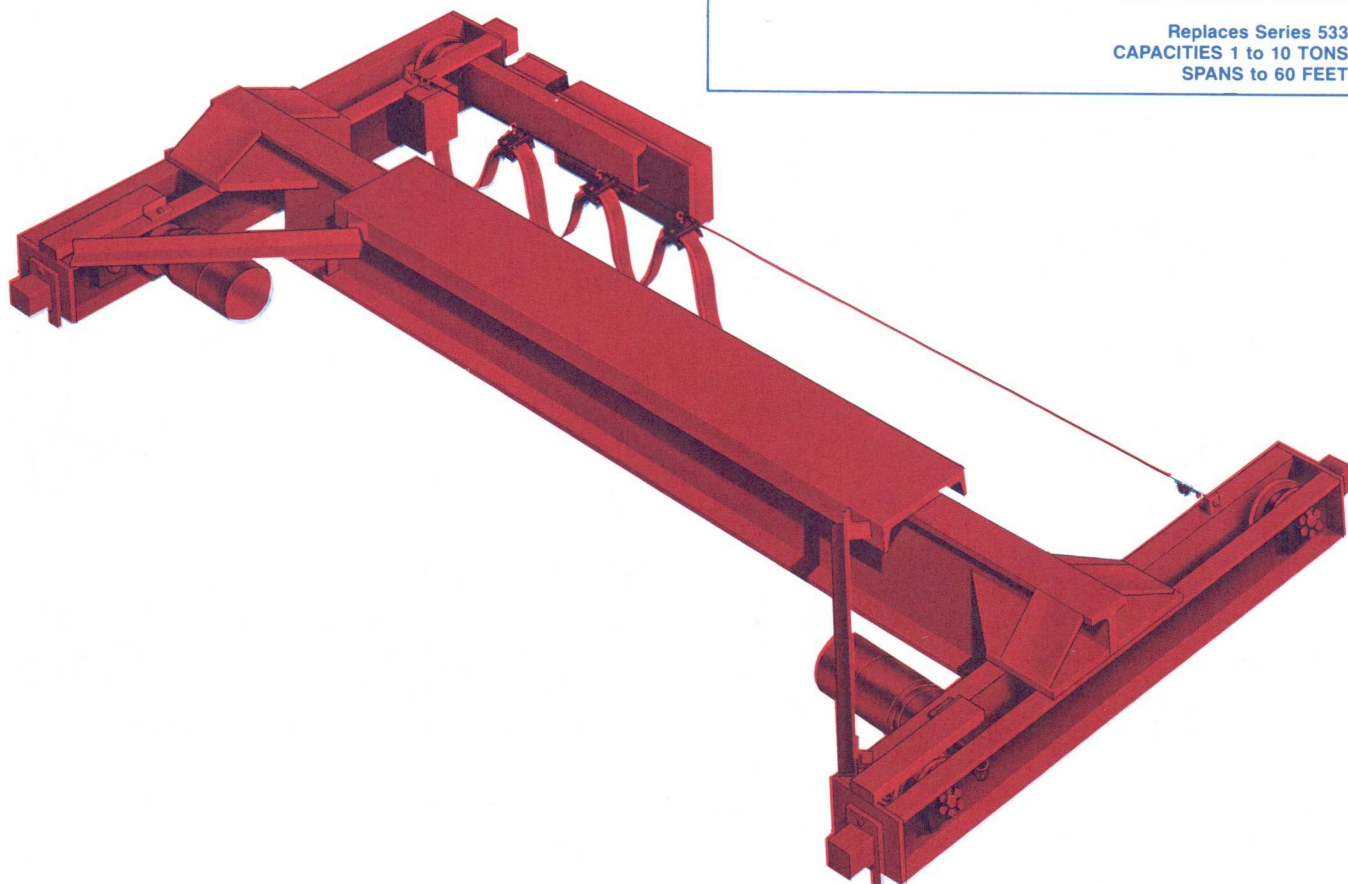
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SERIES 536

Top Running Single Girder
Motorized Dual Drive Crane
For Electric Hoists

Replaces Series 533
CAPACITIES 1 to 10 TONS
SPANS to 60 FEET



The *Wright American* Series 536 top running single girder motorized dual drive crane for use with electric hoists is engineered for service of a variety of loads and applications where an economical, reliable unit is required. The notched bridge beam design is best where overhead clearance and height of lift are important.

The Series 536 top running single girder crane, when combined with a *Wright American* electric trolley hoist, is an excellent installation where it is practical to support crane rails from building columns.

All crane components are selected to give top performance, long, dependable service, and lowest maintenance.

The Series 536 crane is offered in capacities from one through ten tons, with spans up to 60 feet. Bridge speeds available are 70 and 120 FPM single speed with ACM. Optional two speed at 70/23 or 120/40 FPM with ACM is available.

Bridge consists of heavy section beam, rigidly welded to the end truck, reinforced with welded gusset plates to provide in-square operation.

The end trucks are of welded steel channel construction equipped with diaphragms, jig welded, and bored to provide alignment of wheels, axles and drive shaft. Wheel and gear replacement is accomplished without dismantling end trucks

because of easy-to-remove axle. Rail sweeps and energy-absorbing rubber bumpers are included for the crane's protection.

The end truck wheels are double flange alloy steel with hardened treads. Wheels are equipped with prelubricated tapered roller bearings, two to each wheel.

The enclosed dual drive helical gear reduction units, complete with ACM control and A.C. disc brakes, provide smooth bridge motion and excellent load control. The *Acco* ACM is an all-solid state acceleration control module designed exclusively for crane and trolley traverse motion.

Standard electrical equipment includes NEMA type 3R enclosure, mainline magnetic contactor, manually operated fused mainline disconnect switch with lock-out provision, branch circuit fuses, single speed magnetic reversing bridge control, transformer with fused secondary, and flat wire festoon tagline bridge electrification. Optional pendant or traveling push button from the bridge is available.

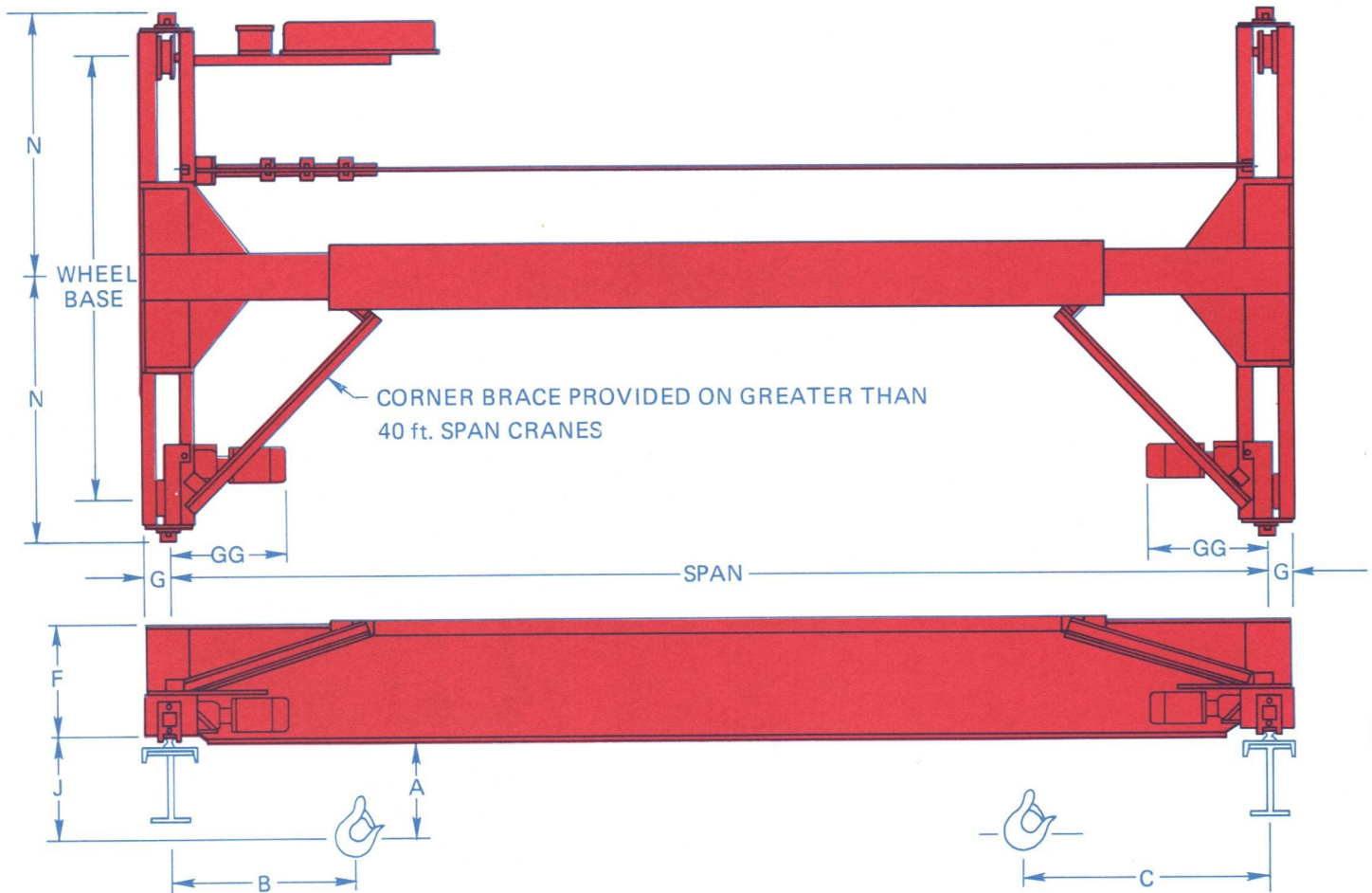
The Series 536 cranes are custom-designed, using engineered components, which are built to provide a square, exact span and true alignment. Each crane is fully assembled before shipment.



SERIES 536 Top Running Single Girder Motorized Dual Drive Crane For Electric Hoists

53-10 Issued 1-4-88

1 to 10
TONS



A dimension represents hoist headroom. Refer to hoist data pages.

B and C dimensions represent hoist end approach. Refer to dimensions on *Wright American*, *Wright-Way* or *Work-rated* hoist data pages.

B and C dimensions based on tagline bridge electrification, end approach dimensions vary according to tagline tow arm location on hoist and tagline trolley stack-up.

NOTE: Minimum OSHA clearance between crane and obstruction requires 2" lateral and 3" overhead.
Standard crane does not include runway collector bracket and runway collectors. See modification and accessories section. Left-hand runway is standard location of runway conductors.

End Truck Product Number	Wheel Tread Dia. (In.)	Wheel Base (In.)	Max ASCE Rail	G (In.)	N (In.)	GG (In.) (e)
4300370	8	60	40 #/Yd	5	36 (d)	30
4300380	8	100	40 #/Yd	5-3/4	56	30-1/4
4300390	10	60	40 #/Yd	5-1/2	37-3/8 (d)	30-1/4
4300400	10	60	60 #/Yd	5-1/2	37-3/8 (d)	30-1/4
4300410	10	100	40 #/Yd	6-1/2	57-3/8	30-1/2
4300420	10	100	60 #/Yd	6-1/2	57-3/8	30-1/2

- (a) If hoist weight exceeds listed maximum, contact factory.
 (b) Wheel loads include:
 (1) 15% live load impact allowance
 (2) 10% dead load allowance (1/2 crane wt. + max. hoist wt.)
 (c) HP shown is for each motor; two required per crane
 (d) Add 9 inches to "N" dimension on trailer side only for addition of optional traveling pushbutton.
 (e) Dimension shown is for drive with two speed motor. Subtract 2 inches for drive with single speed motor.
 (f) Refer to *Wright* structural beam design guide for other requirements.
 (g) Dimensions approximate.

Order by Product Number. Specify: Exact span, bridge speed, runway rail and beam size. State from which runway beam mainline conductors are located (*Wright* standard on left hand runway), dimension from top of runway rail to operating floor, power supply, horsepower of all motors and all optional equipment desired.

SERIES 536 Top Running Single Girder Motorized Dual Drive
Crane For Electric Hoists

53-11 Issued 1-4-88

**1 to 10
TONS**

Cap. (Tons)	Max. Span (Ft.)	Crane Product Number	End Truck Product Number	Bridge Beam	Capping Channel	F (In.)	J (In.)	Beam Selection Based on Max. Hoist Wt. of: (Lbs.) (a)	H.P. for FPM (c)		Net Wt. (Lbs.)	Wheel Load (Lbs.) (b)
									70	120		
1.0	19	5360010	4300370	S10x25.4 #	—	10	A+0	1290	1/2	1/2	1640	2311
	22	5360020	4300370	S12x31.8 #	—	11	A+1				1880	2376
	27	5360030	4300370	S15x42.9 #	—	13	A+2				2360	2508
	31	5360040	4300370	S18x54.7 #	—	18	A+0				2930	2665
	35	5360050	4300370	S20x66 #	—	18	A+2				3570	2841
	38	5360060	4300370	S18x54.7 #	C8x11.5 #	18-1/4	A+0				3790	2902
	40	5360070	4300370	S20x66 #	C10x15.3 #	18-1/4	A+2				4560	3114
	42	5360080	4300380	S20x66 #	C10x15.3 #	18-1/4	A+2				5510	3375
	47	5360090	4300380	S24x80 #	C10x15.3 #	22-1/4	A+2				6630	3683
	52	5360100	4300380	S24x80 #	C10x15.3 #	22-1/4	A+2				7130	3820
	56	5360110	4300380	W27x84 #	C15x33.9 #	25-1/4	A+1-3/4				8860	4296
	60	5360120	4300380	W30x99 #	C15x33.9 #	25-1/2	A+4-3/4				10300	4692
2.0	17	5360130	4300370	S12x31.8 #	—	11	A+1	2000	1/2	1/2	1700	3868
	21	5360140	4300370	S15x42.9 #	—	13	A+2				2090	3975
	25	5360150	4300370	S18x54.7 #	—	18	A+0				2580	4110
	28	5360160	4300370	S20x66 #	—	18	A+2				3080	4247
	32	5360170	4300370	S15x42.9 #	C8x11.5 #	13-1/4	A+2				2970	4217
	38	5360180	4300370	S18x54.7 #	C8x11.5 #	18-1/4	A+0				3790	4442
	40	5360190	4300370	S20x66 #	C10x15.3 #	18-1/4	A+2				4560	4654
	42	5360200	4300380	S20x66 #	C10x15.3 #	18-1/4	A+2				5510	4915
	47	5360210	4300380	S24x80 #	C12x20.7 #	22-1/4	A+2				6906	5299
	52	5360220	4300380	S24x80 #	C12x20.7 #	22-1/4	A+2				7430	5443
	56	5360230	4300380	W27x84 #	C15x33.9 #	25-1/4	A+1-3/4				8860	5837
	60	5360240	4300380	W30x99 #	C15x33.9 #	25-1/2	A+4-3/4				10300	6233
3.0	15	5360250	4300370	S12x31.8 #	—	11	A+1	2000	1/2	1/2	1630	4998
	18	5360260	4300370	S15x42.9 #	—	13	A+2				1940	5084
	22	5360270	4300370	S18x54.7 #	—	18	A+0				2410	5213
	25	5360280	4300370	S20x66 #	—	18	A+2				2880	5342
	32	5360290	4300370	S15x42.9 #	C8x11.5 #	13-1/4	A+2				2970	5367
	36	5360300	4300370	S18x54.7 #	C8x11.5 #	18-1/4	A+0				3650	5554
	40	5360310	4300370	S20x66 #	C10x15.3 #	18-1/4	A+2				4560	5804
	42	5360320	4300380	S20x66 #	C10x15.3 #	18-1/4	A+2				5510	6065
	46	5360330	4300380	S24x80 #	C10x15.3 #	22-1/4	A+2				6530	6345
	52	5360340	4300380	S24x80 #	C12x20.7 #	22-1/4	A+2				7430	6593
	56	5360350	4300380	W27x102 #	C15x33.9 #	25-1/2	A+2				9920	7278
	60	5360360	4300380	W30x116 #	C15x33.9 #	25-1/2	A+5				11370	7677
4.0	16	5360370	4300370	S15x42.9 #	—	13	A+2	2400	1/2	1/2	1850	6429
	19	5360380	4300370	S18x54.7 #	—	18	A+0				2220	6531
	23	5360390	4300370	S20x66 #	—	18	A+2				2740	6674
	29	5360400	4300370	S15x42.9 #	C8x11.5 #	13-1/4	A+2				2800	6690
	36	4360410	4300370	S18x54.7 #	C10x15.3 #	18-1/4	A+0				3790	6962
	40	4360420	4300370	S20x66 #	C12x20.7 #	18-1/4	A+2				4790	7237
	42	4360430	4300380	S20x66 #	C12x20.7 #	18-1/4	A+2				5750	7501
	48	5360440	4300380	S24x80 #	C12x20.7 #	22-1/4	A+2				7010	7848
	52	5360450	4300380	S24x80 #	C15x33.9 #	22-1/2	A+2				8150	8161
	56	5360460	4300380	W27x102 #	C15x33.9 #	25-1/2	A+2				9920	8648
	60	5360470	4300380	W30x116 #	C15x33.9 #	25-1/2	A+5				11370	9047
	5.0	15	5360480	4300370	S15x42.9 #	—	13				A+2	3000
18		5360490	4300370	S18x54.7 #	—	18	A+0	2160	7994			
21		5360500	4300370	S20x66 #	—	18	A+2	2600	8115			
27		5360510	4300370	S15x42.9 #	C10x15.3 #	13-1/4	A+2	2800	8170			
33		5360520	4300370	S18x54.7 #	C10x15.3 #	18-1/4	A+0	3570	8382			
36		5360530	4300370	S20x66 #	C10x15.3 #	18-1/4	A+2	4220	8561			
40		5360540	4300370	S20x66 #	C12x20.7 #	18-1/4	A+2	4790	8717			
42		5360550	4300380	S20x66 #	C15x33.9 #	18-1/2	A+2	6340	9143			
44		5360560	4300380	S24x80 #	C12x20.7 #	22-1/4	A+2	6580	9210			
48		5360570	4300380	S24x80 #	C15x33.9 #	22-1/2	A+2	7670	9509			
52		5360580	4300380	S24x80 #	C15x33.9 #	22-1/2	A+2	8150	9641			
56		5360590	4300380	W27x102 #	C15x33.9 #	25-1/2	A+2	9920	10128			
60	5360600	4300380	W30x116 #	C15x33.9 #	25-1/2	A+5	11370	10527				
6.0	14	5360610	4300390	S15x42.9 #	—	15	A+0	3100	1/2	3/4	2000	9155
	16	5360620	4300390	S18x54.7 #	—	15-1/2	A+2-1/2				2290	9235
	19	5360630	4300390	S20x66 #	—	20	A+0				2690	9345
	24	5360640	4300390	S15x42.9 #	C10x15.3 #	15-1/4	A+0				2852	9389
	31	5360650	4300390	S18x54.7 #	C10x15.3 #	15-3/4	A+2-1/2				3660	9612
	33	5360660	4300390	S20x66 #	C10x15.3 #	20-1/4	A+0				4209	9762
	36	5360670	4300390	S24x80 #	C10x15.3 #	24-1/4	A+0				4995	9979
	40	5360680	4300390	S24x80 #	C12x20.7 #	24-1/4	A+0				5620	10151
	41	5360690	4300410	S24x80 #	C12x20.7 #	24-1/4	A+0				6689	10444
	47	5360700	4300410	S24x80 #	C15x33.9 #	24-1/2	A+0				7970	10797
	52	5360710	4300410	S24x80 #	C15x33.9 #	24-1/2	A+0				8570	10962
	56	5360720	4300410	W27x102 #	C15x33.9 #	27-1/2	A+0				10340	11449
60	5360730	4300410	W30x116 #	C15x33.9 #	27-1/2	A+3	11790	11847				
7.5	15	5360740	4300390	S18x54.7 #	—	15-1/2	A+2-1/2	3100	1/2	3/4	2230	10943
	18	5360750	4300390	S20x66 #	—	20	A+0				2620	11051
	25	5360760	4300390	S18x54.7 #	C8x11.5 #	15-3/4	A+2-1/2				3120	11188
	28	5360770	4300390	S18x54.7 #	C10x15.3 #	15-3/4	A+2-1/2				3450	11279
	31	5360780	4300390	S20x66 #	C10x15.3 #	20-1/4	A+0				4030	11438
	36	5360790	4300390	S20x66 #	C12x20.7 #	20-1/4	A+0				4660	11612
	38	5360800	4300390	S24x80 #	C12x20.7 #	24-1/4	A+0				5409	11817
	40	5360810	4300390	S24x80 #	C15x33.9 #	24-1/2	A+0				6146	12020
	44	5360820	4300410	S24x80 #	C15x33.9 #	24-1/2	A+0				7610	12423
	48	5360830	4300410	S24x80 #	C15x33.9 #	24-1/2	A+0				8090	12555
	52	5360840	4300410	S24x106 #	C15x33.9 #	24-1/2	A+1/2				9990	13077
	56	5360850	4300410	W27x102 #	C15x33.9 #	27-1/2	A+0				10340	13174
60	5360860	4300410	W30x116 #	MC18x42.7 #	27-1/2	A+3	12350	13726				
10.0	13	5360870	4300390	S18x54.7 #	—	15-1/2	A+2-1/2	3200	1/2	3/4	2125	13844
	16	5360880	4300390	S20x66 #	—	20	A+0				2480	13942
	20	5360890	4300390	S18x54.7 #	C8x11.5 #	15-3/4	A+2-1/2				2788	14027
	22	5360900	4300390	S18x54.7 #	C10x15.3 #	15-3/4	A+2-1/2				3010	14088
	27	5360910	4300390	S20x66 #	C10x15.3 #	20-1/4	A+0				3699	14277
	30	5360920	4300390	S20x66 #	C12x20.7 #	20-1/4	A+0				4127	14395
	35	5360930	4300390	S24x80 #	C12x20.7 #	24-1/4	A+0				5089	14659
	40	5360940	4300390	S24x80 #	C15x33.9 #	24-1/2	A+0				6170	14957
	42	5360950	4300410	S24x80 #	C15x33.9 #	24-1/2	A+0				7370	15287
	48	5360960	4300410	S24x106 #	C15x33.9 #	24-1/2	A+1/2				9400	15845
	52	5360970	4300410	W27x102 #	C15x33.9 #	27-1/2	A+0				9770	15947
	55	5360980	4300410	W27x102 #	MC18x42.7 #	27-1/2	A+0				10710	16205
60	5360990	4300410	W30x116 #	MC18x42.7 #	27-1/2	A+3	12350	16656				



SERIES 536 Top Running Single Girder Motorized Dual Drive Crane For Electric Hoists

53-12 Issued 1-4-88

**1 to 10
TONS**

STANDARD EQUIPMENT SPECIFICATIONS

DESIGN FACTORS Standard capacity ratings shall represent the net rated load at the hook of any type of hoist with the same load rating installed on the crane having a hoist trolley weight within the established limits. The crane shall be so designed that the load carrying parts, except structural members and hoisting ropes and gearing, shall be designed so that the calculated static stress in the material, based on the rated load, shall not exceed 20% of the published average ultimate strength of the material. This limitation of stress provides a margin to allow for variations in the properties of materials, manufacturing and operating conditions, and design assumptions. However, under no condition shall the crane be loaded beyond its rated capacity.

BEAM Bridge beam shall be designed in accordance with latest specifications of the Crane Manufacturers Association of America and shall be of standard structural shapes, constructed in accord with AISC specifications. Under full load the beam deflection shall not exceed 1/600 of the span. Bridge beam shall be selected structural steel member and shall provide level and straight tread surfaces for the hoist trolleys. The bridge beam shall be braced and welded to maintain squareness with the trucks. Bridge beam shall have adequate lateral stiffness with minimum lateral moment of inertia of 1/20 that of the vertical moment of inertia.

END TRUCKS The end truck frame shall be welded from structural shapes into a single unit as to prevent distortion and mismatch of gears under maximum rated load. End truck wheelbase shall be a minimum of 1/8 of the crane span. One wheel in each truck shall be geared and meshed with a pinion.

The truck shall contain diaphragm members welded to truck frames to maintain alignment and distribute truck loads uniformly on inner and outer truck member. A wheel gear protecting guard shall be part of the end truck. The truck shall be designed so that the drop of the truck will be limited to one inch in case of axle or wheel failure. Attachment of end truck to bridge beam shall be by welding to insure alignment.

CRANE WHEELS Crane wheels shall be double-flange alloy steel and have tapered tread surfaces hardened to 375 to 425 Brinell. Each wheel shall be supported on tapered roller bearings mounted on stationary axles suitable to take radial and thrust loads. The wheels shall be lubricated at the factory with sodium-base grease and provided with a suitable reservoir of lubricant to eliminate the need for field lubrication. Wheel axles must have mounting nuts for bearing adjustment. Wheel mounting shall be designed so that axles and wheels can be removed without disturbing other truck elements of their alignment. Wheel treads shall be smooth, true and uniform within .010 inch tread diameter on all wheels.

RUNWAYS The crane runway, runway rails, and stops shall be furnished and installed by the user.

The runway rails shall be straight, parallel, level, and at the same elevation. The distance center to center and the elevation shall be within a tolerance of plus or minus 1/8". The runway rails should be standard rail sections of a proper size for the crane to be installed and must be provided with proper rail splices.

The crane runway shall be designed with sufficient strength and rigidity to prevent undue lateral or vertical deflection.

WELDING Welding shall be done by certified welders and shall be in accordance with the American Welding Society standards. All welds shall be ductile, shall have good weld penetration free of cracks and undercuts, and the welds shall manifest workmanlike appearance.

CRANE DRIVE Each end truck shall be provided with a helical gear motor reducer. The drive motor for each truck shall be fully enclosed, 30-minute duty rated class B insulation in a NEMA frame and shall comply with NEMA performance specifications. A spring set, electrically released AC disc type brake shall be integrally mounted on each motor in line with the reducer. The motors shall be integral with fully enclosed oil splash lubricated gear reducers. The gear reduction shaft shall be supported by precision ball or roller bearings.

BEARING LIFE All bearings in the crane wheels and the gear reduction shafts shall be designed for 5,000 hours B-10 bearing life minimum.

GEARING All gears shall be cut from solid blanks with 20 degree pressure angle involute shape for high strength and shall comply with AGMA specifications for load ratings. All gears operating at higher than 200 FPM pitchline speed shall be fully enclosed in oil tight housings and lubricated by splash principle.

BRIDGE BUMPERS The bridge shall be provided with bumpers capable of stopping the crane (not including the lifted load) at a rate of deceleration not to exceed three feet per second when traveling in either direction at 20% of rated speed. The bumpers shall have sufficient energy absorbing capacity to stop the crane when traveling at a speed of at least 40% of the rated load speed.

RAIL SWEEPS Bridge trucks shall be equipped with sweeps which extend below the top of the rail and project in front of the crane wheels.

ELECTRICAL CONTROLS Electrical controls shall be single speed or two speed as determined by speed required. Bridge control shall include a mainline contactor, manually operated fused mainline disconnect with lock-out provision, branch circuit fuses, reversing bridge control and transformer with fused secondary. Bridge control shall be mounted on bridge in NEMA type 3R enclosure actuated from a pendant push button station from either the trolley hoist or the bridge as determined by the requirements. Single speed or two speed bridge motors shall be provided with a solid state control to adjust the starting torque and acceleration.

BRIDGE CONDUCTORS AND WIRING Flat wire festoon tagline bridge conductor shall be provided with the crane to provide fully insulated bridge electrification. All other wiring of the crane shall be in rigid or flexible conduit in accordance with National Electrical Code.

PAINTING The crane before shipment shall be painted with one coat of red semi-gloss lead free enamel.

OPERATING AND MAINTENANCE Proper erection instructions, parts list and maintenance instructions will be furnished with the crane.

WARNING:

Equipment described herein is not designed for, and should not be used for, lifting, supporting, or transporting humans. Modifications to upgrade, rerate, or otherwise alter the hoist or crane equipment shall be authorized only by the original manufacturer or qualified professional engineer.

Failure to comply with any one of the limitations noted herein may result in serious bodily injury.



Acco Products Division

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Acco Chain & Lifting Products Division

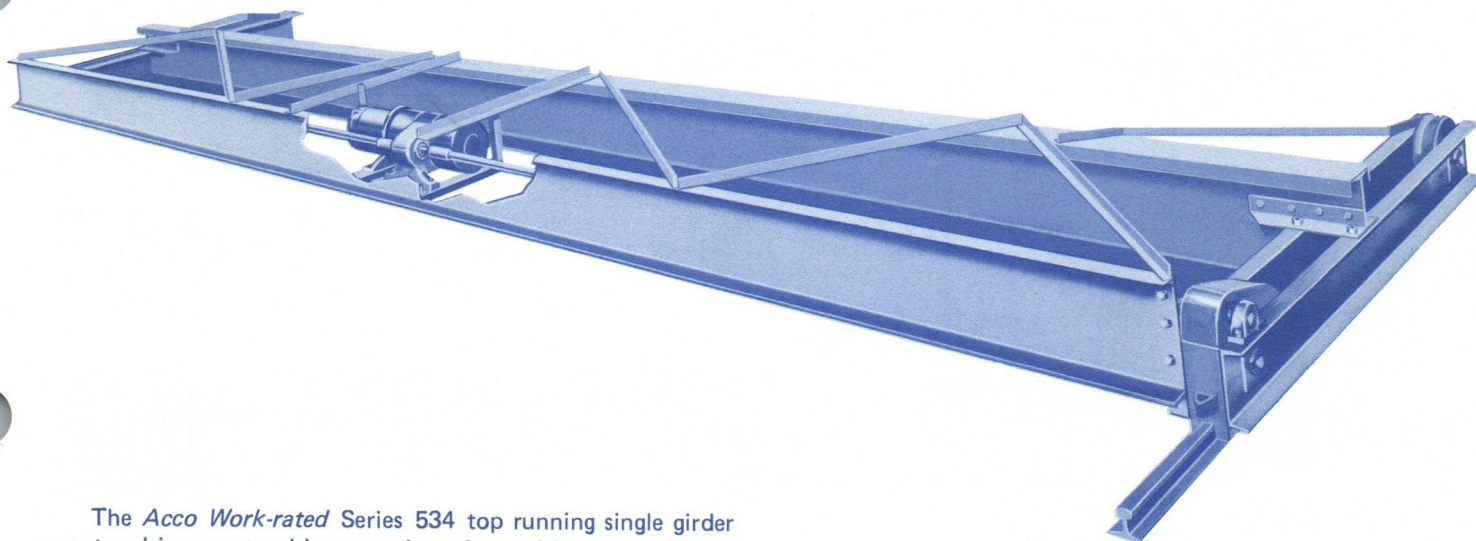
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Supersedes 3-1-84

53-13

WORK-RATED®

SERIES 534 TOP RUNNING SINGLE GIRDER CRANE MOTOR DRIVEN—CENTER DRIVE

CAPACITIES 1 to 10 TONS SPANS to 50 FEET



The *Acco Work-rated* Series 534 top running single girder motor driven center drive crane is engineered for normal industrial service. The notched bridge beam design is best where overhead clearance and height of lift are important.

The Series 534 top running single girder crane, when combined with a *Work-rated®* or *Wright American* electric trolley hoist, is an excellent installation where it is practical to support crane runway rails from building columns.

All crane components are selected to give top performance, long, dependable service, and lowest maintenance.

The Series 534 crane is offered in capacities from one through ten tons, with spans up to 50 feet, and with a standard bridge travel speed of 75 FPM, single speed. Optional 125 and 175 FPM single speed with ACM or 75/25, 125/42 and 175/58 two speed with ACM is available. Five step variable speed is also available at 75, 125 or 175 FPM.

Bridge consists of heavy section beam, rigidly bolted to the end trucks for in-square operation. Longer spans are reinforced by capping channel welded to the bridge beam. A heavy structural channel outrigger member, running full length of bridge, is braced to the bridge beam on the crane drive side to provide lateral rigidity and support to the drive unit.

The end trucks are of welded-steel channel construction equipped with diaphragms, jig-welded and bored to provide alignment of wheels, axles and drive shaft. Wheel and gear replacement is accomplished without dismantling end trucks because of easy-to-remove axle. Rail sweeps and energy absorbing rubber bumpers are included for the crane's protection.

The end truck wheels are hardened steel double flanged. All end truck wheels are equipped with prelubricated, tapered roller bearings, two to each wheel.

The Series 534 enclosed center mounted standard 75 FPM single speed crane drive unit complete with ACM control and D.C. rectified disc brake provides smooth bridge motion and excellent load control. The *Acco* ACM is an all-solid state acceleration control module designed exclusively for crane and trolley traverse motions. The equal length squaring shaft is geared to wheels on both end trucks to provide uniform travel at both sides of the crane.

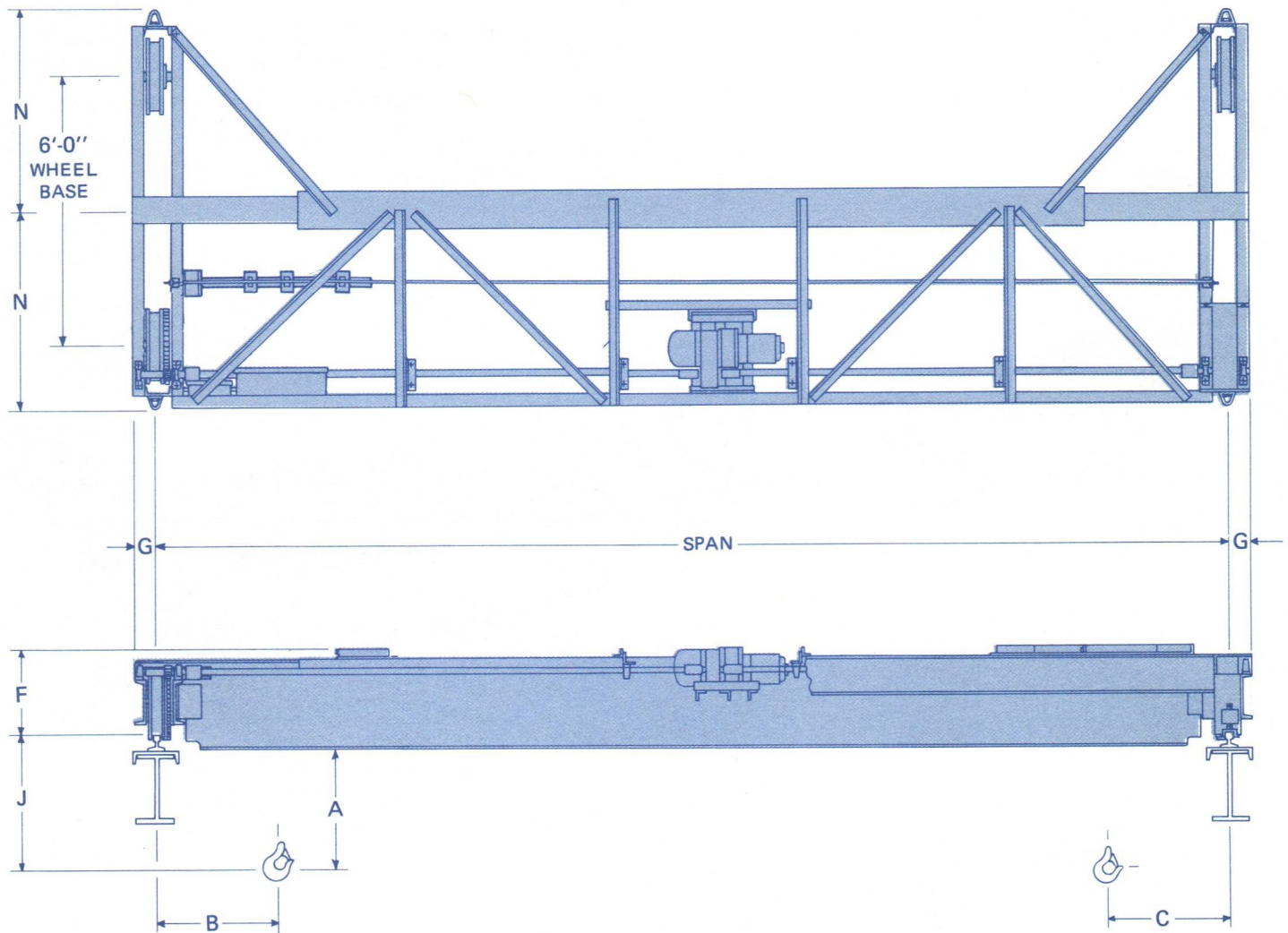
Standard electrical equipment includes NEMA type 3R enclosure, mainline magnetic contactor, manually operated fuseable disconnect switch with lockout provision, branch circuit fuses, single speed magnetic reversing bridge control, transformer with fused secondary, and flat wire festoon tagline bridge electrification. Optional pendant or traveling push-button from the bridge is available.

Series 534 cranes are custom-designed, using pre-engineered components which are built to provide a square crane, exact span, and true alignment. Each crane is fully assembled before shipment.

**1 to 10
TONS**

**WORK-RATED® SERIES 534 TOP RUNNING SINGLE
GIRDER CRANE MOTOR DRIVEN—CENTER DRIVE**

53-14



A dimension represents hoist headroom. Refer to *Wright-way®* or *Work-rated* hoist data pages.

B and C dimension represents hoist end approach. Refer to dimension on *Wright-way* or *Work-rated* hoist data pages and add 15" for 'B' dimension. For all standard headroom hoists add 10" for 'C' dimension. For all close headroom hoists add 13-1/2" for 'C' dimension.

Dimensions in inches unless otherwise specified.

NOTE: Minimum OSHA clearance between crane and obstruction requires 2" lateral and 3" overhead.

Standard crane does not include runway collector bracket and runway collectors. Left-hand runway is standard location of runway conductors.

Order by Product Number. Specify: Exact span, bridge speed, runway rail, and beam size. State from which runway beam mainline conductors are located (*Acco* standard on left hand runway), dimension from top of runway rail to operating floor, power supply, horsepower of all motors, and all optional equipment desired as listed in modifications and accessories section.



**WORK-RATED® SERIES 534 TOP RUNNING
SINGLE GIRDER CRANE MOTOR DRIVEN — CENTER DRIVE**

53-15 Issued 8-31-87

**1 to 10
TONS**

Cap. (Tons)	Max. Span (Ft.)	Crane Product Number	End Truck Product Number	Bridge Beam	Capping Channel	Outrigger Channel	J	HP for FPM			Weight (Lbs.)	Wheel Load (Lbs.) (a)
								75	125	175		
1	20	5340010	4340010	12x31.8 #	—	9x13.4 #	A— 7/8	1/2	1/2	1	2165	2020
	25	5340020	4340010	12x31.8 #	—	9x13.4 #	A— 7/8	1/2	1/2	1	2540	2114
	30	5340030	4340010	15x42.9 #	—	10x15.3 #	A+ 2-1/8	1/2	1/2	1	3230	2287
	40	5340040	4340010	15x42.9 #	8x11.5 #	12x20.7 #	A+ 2-1/8	1/2	1/2	1	4540	2614
	50	5340050	4340010	18x54.7 #	9x13.4 #	15x33.9 #	A+ 5-1/8	1/2	1	1	6875	3199
2	20	5340060	4340010	12x31.8 #	—	9x13.4 #	A— 7/8	1/2	1/2	1	2195	3178
	25	5340070	4340010	15x42.9 #	—	9x13.4 #	A+ 2-1/8	1/2	1/2	1	2836	3338
	30	5340080	4340010	18x54.7 #	—	10x15.3 #	A+ 5-1/8	1/2	1/2	1	3590	3527
	35	5340090	4340010	15x42.9 #	9x13.4 #	12x20.7 #	A+ 2-1/8	1/2	1	1	4215	3683
	40	5340100	4340010	18x54.7 #	9x13.4 #	12x20.7 #	A+ 5-1/8	1/2	1	1	5095	3903
	45	5340110	4340010	18x54.7 #	10x15.3 #	15x33.9 #	A+ 5-1/8	1/2	1	1	6331	4212
	50	5340120	4340010	20x66 #	10x15.3 #	15x33.9 #	A+ 7-1/8	1/2	1	1-1/2	7420	4484
3	20	5340130	4340010	15x42.9 #	—	9x13.4 #	A+ 2-1/8	1/2	1	1	2430	4836
	25	5340140	4340010	18x54.7 #	—	9x13.4 #	A+ 5-1/8	1/2	1	1	3135	5012
	30	5340150	4340010	15x42.9 #	8x11.5 #	10x15.3 #	A+ 2-1/8	1/2	1	1	3575	5122
	35	5340160	4340010	18x54.7 #	8x11.5 #	12x20.7 #	A+ 5-1/8	1/2	1	1-1/2	4705	5404
	40	5340170	4340010	18x54.7 #	9x13.4 #	12x20.7 #	A+ 5-1/8	1/2	1	1-1/2	5445	5589
	45	5340180	4340010	20x66 #	10x15.3 #	15x33.9 #	A+ 7-1/8	1/2	1	1-1/2	7190	6026
	50	5340190	4340010	24x80 #	10x15.3 #	15x33.9 #	A+ 11-1/8	1/2	1	1-1/2	8540	6363
5 & 6	20	5340200	4340020	18x54.7 #	—	9x13.4 #	A+ 2-1/4	1/2	1	1-1/2	2990	8676
	25	5340210	4340020	15x42.9 #	10x15.3 #	10x15.3 #	A— 3/4	1/2	1	2	3455	8792
	30	5340220	4340020	18x54.7 #	8x11.5 #	10x15.3 #	A+ 2-1/4	1/2	1	2	4200	8978
	35	5340230	4340020	20x66 #	10x15.3 #	12x20.7 #	A+ 4-1/4	1	1	2	5430	9286
	40	5340240	4340020	24x80 #	10x15.3 #	12x20.7 #	A+ 8-1/4	1	1-1/2	2	6555	9568
	45	5340250	4340020	24x80 #	10x15.3 #	15x33.9 #	A+ 8-1/4	1	1-1/2	2	7850	9891
	50	5340260	4340020	24x80 #	12x20.7 #	15x33.9 #	A+ 8-1/4	1	1-1/2	2	8810	10131
7-1/2	20	5340270	4340020	20x66 #	—	10x15.3 #	A+ 4-1/4	1	1-1/2	2	4030	11138
	25	5340280	4340030	18x54.7 #	8x11.5 #	10x15.3 #	A— 2	1	1-1/2	2	4575	11207
	30	5340290	4340030	20x66 #	10x15.3 #	10x15.3 #	A— 0	1	1-1/2	3	5590	11461
	40	5340300	4340030	24x80 #	10x15.3 #	12x20.7 #	A+ 4	1	1-1/2	3	7420	11918
	45	5340310	4340030	24x80 #	12x20.7 #	15x33.9 #	A+ 4	1	2	3	9035	12322
	50	5340320	4340030	24x106 #	15x33.9 #	15x33.9 #	A+ 4-1/2	1	2	3	11730	12996
10	20	5340330	4340030	24x80 #	—	10x15.3 #	A+ 4	1	2	3	4430	14046
	25	5340340	4340030	20x66 #	10x15.3 #	10x15.3 #	A+ 0	1	2	3	4950	14178
	30	5340350	4340030	24x80 #	10x15.3 #	10x15.3 #	A+ 4	1	2	3	6049	14450
	35	5340360	4340030	24x80 #	10x15.3 #	12x20.7 #	A+ 4	1	2	3	6815	14642
	40	5340370	4340030	24x80 #	12x20.7 #	12x20.7 #	A+ 4	1	2	3	7696	14862
	45	5340380	4340030	24x106 #	12x20.7 #	15x33.9 #	A+ 4-1/2	1	2	5	10830	15645
	50	5340390	4340030	27x102 #	15x33.9 #	15x33.9 #	A+ 7-3/4	1	2	5	11540	15823

End Truck (c)	Wheel Tread Diameter	F(b)		G	N
		Drive Unit #1	Drive Unit #2		
4340010	10	16-1/2	—	4-3/4	4'-1-1/2"
4340020	12	18-5/8	19-1/2	5-1/8	4'-1"
4340030	18	22-7/8	23-3/4	5-3/4	4'-5"

(a) Wheel load includes allowance for 15% impact with a maximum hoist speed of 30 FPM. Standard industrial service. Refer to Acco structural beam guide for other requirements.

(b) #1 Drive Unit is 1/2 - 2 HP #2 Drive Unit is 3 or 5 HP.

(c) Max. ASCE Rail = 60#/Yd.

STANDARD EQUIPMENT SPECIFICATIONS

DESIGN FACTORS Standard capacity ratings shall represent the net rated load at the hook of any type of hoist with the same load rating installed on the crane having a hoist trolley weight within the established limits. The crane shall be so designed that the load carrying parts, except structural members and hoisting ropes and gearing, shall be designed so that the calculated static stress in the material, based on the rated load, shall not exceed 20% of the published average ultimate strength of the material. This limitation of stress provides a margin to allow for variations in the properties of materials, manufacturing and operating conditions, and design assumptions. However, under no condition shall the crane be loaded beyond its rated capacity.

BEAM Bridge beam shall be designed in accordance with latest specifications of the Crane Manufacturers Association of America and shall be of standard structural shapes, constructed in accord with AISC specifications. Under full load the beam deflection shall not exceed 1/600 of the span. Bridge beam shall be selected structural steel member and shall provide level and straight tread surfaces for the hoist trolleys. Crane shall be reinforced with outrigger to provide squareness with the end truck, adequate lateral stiffness with a minimum lateral moment of inertia of 1/20 that of the vertical moment of inertia. Outrigger shall furnish support for squaring shaft and the crane drive motor and gear reducer assembly.

END TRUCKS End trucks shall be built of structural shapes and welded to a stable assembly to comply with general strength requirements previously stated. They shall provide proper wheel and bearing alignment for crane wheels and drives during the life of the crane. End truck wheelbase shall be a minimum of 1/8 of the crane span. One wheel in each truck shall be geared and meshed with a pinion mounted on the crane squaring shaft. The crane end trucks shall contain diaphragm members welded to truck frames to maintain alignment and distribute truck loads uniformly on inner and outer truck members. A wheel and wheel gear protecting guard shall be part of the end truck. The truck shall be designed so that, in case of a wheel, axle or wheel failure, the drop of the truck will be limited to one inch. Attachment of end trucks to bridge beams shall be with fitted bolts which will insure alignment in assembly and convenient erection.

CRANE WHEELS Crane wheels shall be double-flange alloy steel and have tread surfaces hardened to 375 to 425 Brinell. Each wheel shall be supported on tapered roller bearings mounted on stationary axles suitable to take radial and thrust loads. The wheels shall be lubricated at the factory with sodium-base grease and provided with a suitable reservoir of lubricant to eliminate the need for field lubrication. Wheel axles must have mounting nuts for bearing adjustment. Wheel mounting shall be designed so that axles and wheels can be removed without disturbing other truck elements of their alignment. Wheel treads shall be smooth, true and uniform within .010 inch tread diameter on all wheels.

RUNWAYS The crane runway, runway rails, and stops shall be furnished and installed by the user. The runway rails shall be straight, parallel, level, and at the same elevation. The distance center to center and the elevation shall be within a tolerance of plus or minus 1/8". The runway rails should be standard rail sections of a proper size for the crane to be installed and must be provided with proper rail splices. The crane runway shall be designed with sufficient strength and rigidity to prevent undue lateral or vertical deflection.

WELDING Welding shall be done by certified welders and shall be in accordance with the American Welding Society standards. All welds shall be ductile, shall have good weld penetration free of cracks and undercuts, and the welds shall manifest workmanlike appearance.

CRANE DRIVE The crane drive motor shall be fully enclosed 30 minute duty cycle rated, with class B insulation complying with NEMA performance specifications. The motor shall be integral with a fully enclosed oil splash lubricated gear reduction. The motor and the gear reduction shafts shall be supported by permanently lubricated precision ball or roller bearings. The drive shaft shall provide synchronous drive from the gear reduction to both end trucks. The crane drive shall include an integrally mounted spring set electrically released D.C. rectified disc brake.

DRIVE SHAFT The drive shaft of the crane shall be supported on lubricated precision ball bearing pillow blocks based on ten foot maximum centers. These pillow blocks shall be lubricated through pressure grease fittings. The crane drive shaft shall be steel designed to limit torsional shaft stress to 6,000 psi. Maximum torsional twist angle in the drive shaft, shall not exceed one degree of the wheel rotation under maximum rated load regardless of load location.

BEARING LIFE All bearings in the crane wheels, those supporting the squaring shafts and the gear reduction shafts, shall be designed for 5,000 hours B-10 bearing life minimum.

GEARING All gears shall be cut from solid blanks with 20 degree pressure angle involute shape for high strength and shall comply with AGMA specifications for load ratings. All gears operating at higher than 200 FPM pitchline speed shall be fully enclosed in oil tight housings and lubricated by splash principle.

BRIDGE BUMPERS The bridge shall be provided with bumpers capable of stopping the crane (not including the lifted load) at a rate of deceleration not to exceed three feet per second when traveling in either direction at 20% of rated speed. The bumpers shall have sufficient energy absorbing capacity to stop the crane when traveling at a speed of at least 40% of the rated load speed.

RAIL SWEEPS Bridge trucks shall be equipped with sweeps which extend below the top of the rail and project in front of the crane wheels.

ELECTRICAL CONTROLS Electrical controls shall be single speed or multi speed as determined by speed required. Bridge control shall include a mainline contactor, manually operated fused mainline disconnect with lock-out provision, branch circuit fuses, reversing bridge control and transformer with fused secondary. Bridge control shall be mounted on bridge in NEMA type 3R enclosure actuated from a pendant push button station from either the trolley hoist or the bridge as determined by the requirements. Single speed or two speed bridge motors shall be provided with a solid state control to adjust the starting torque and acceleration.

BRIDGE CONDUCTORS AND WIRING Flat wire festoon tagline bridge conductor shall be provided with the crane to provide fully insulated bridge electrification. All other wiring of the crane shall be in accordance with National Electrical Code.

PAINTING The crane before shipment shall be painted with one coat of mustard yellow lead free chromate paint.

OPERATING AND MAINTENANCE Proper erection instructions, parts list and maintenance instructions will be furnished with the crane.

WARNING Equipment described herein is not designed for, and should not be used for, lifting, supporting or transporting humans.

Modifications to upgrade, rerate, or otherwise alter this crane or hoist equipment shall be authorized only by the original equipment manufacturer or qualified professional engineer.

Failure to comply with any one of the limitations noted herein can result in serious bodily injury and/or property damage.



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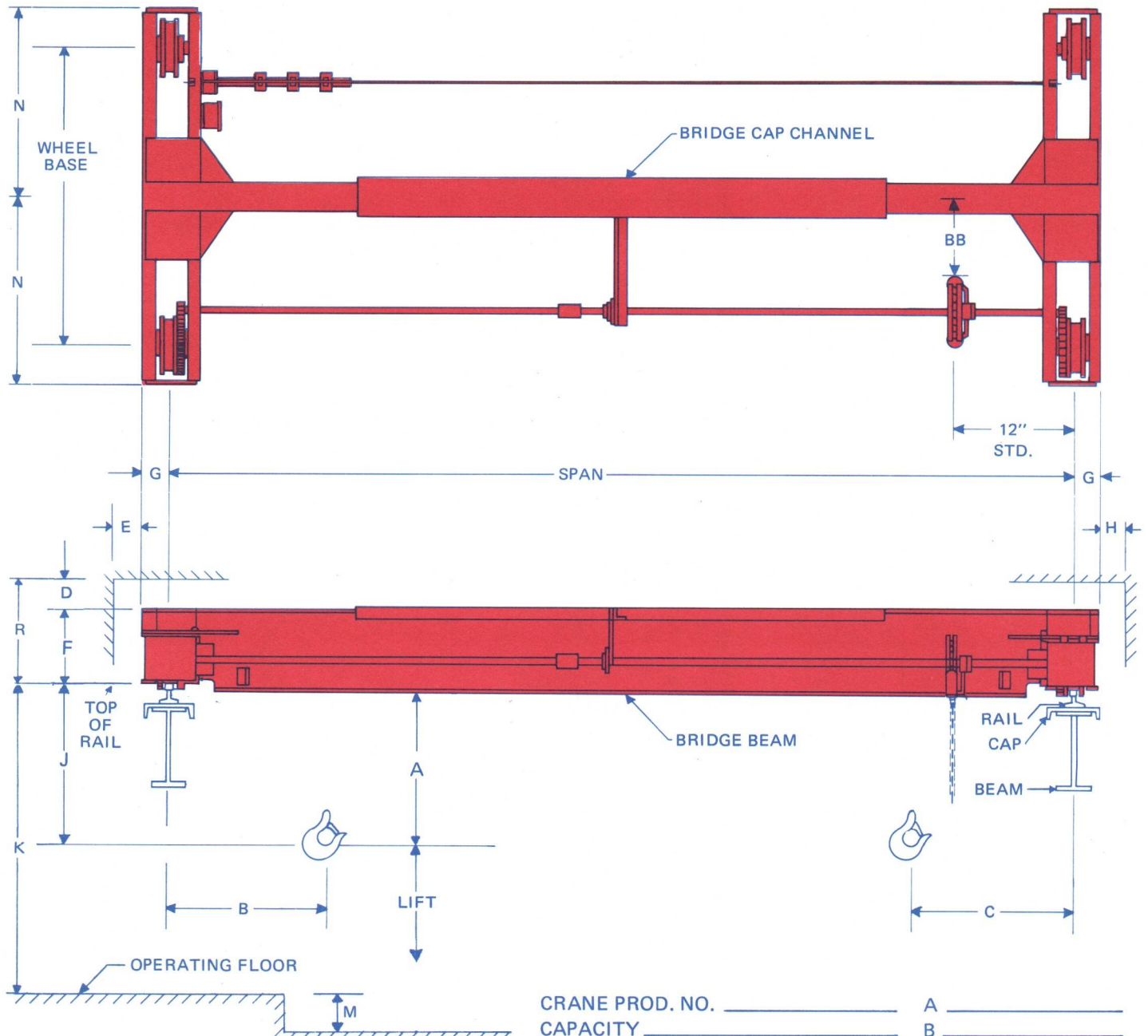
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SERIES 535 Top Running Single Girder Crane Hand Operated
For Use With Hand Hoists Or Electric Hoists
Replaces Series 532
53-18
Issued 1-4-88 Supersedes 3-15-86

**1 to 10
TONS**



Note: Left-hand runway is standard location of runway conductors.
Minimum OSHA clearance between crane and obstruction requires 2" lateral and 3" overhead.

CUSTOMER: _____

CUST. ORDER NO. _____

ACCO QUOTE NO. _____

ACCO JOB NO. _____

DATE _____

CUSTOMER APPROVAL _____

DATE _____ SIGNATURE _____

CRANE PROD. NO. _____	A _____
CAPACITY _____	B _____
SPAN _____	BB _____
LIFT _____	C _____
HOIST PROD. NO. _____	D _____
RUNWAY:	E _____
BEAM _____	F _____
CAP. CH. _____	G _____
RAIL _____	H _____
BRIDGE:	J _____
BEAM _____	K _____
CAP. CH. _____	M _____
WHEEL LOADING _____	N _____
POWER SUPPLY _____	R _____
	WB _____

WARNING Equipment described herein is not designed for, and should not be used for lifting, supporting, or transporting humans. Modifications to upgrade, rerate, or otherwise alter the hoist or crane equipment shall be authorized only by the original manufacturer qualified professional engineer. Failure to comply with any one of the limitations noted herein may result in serious bodily injury.

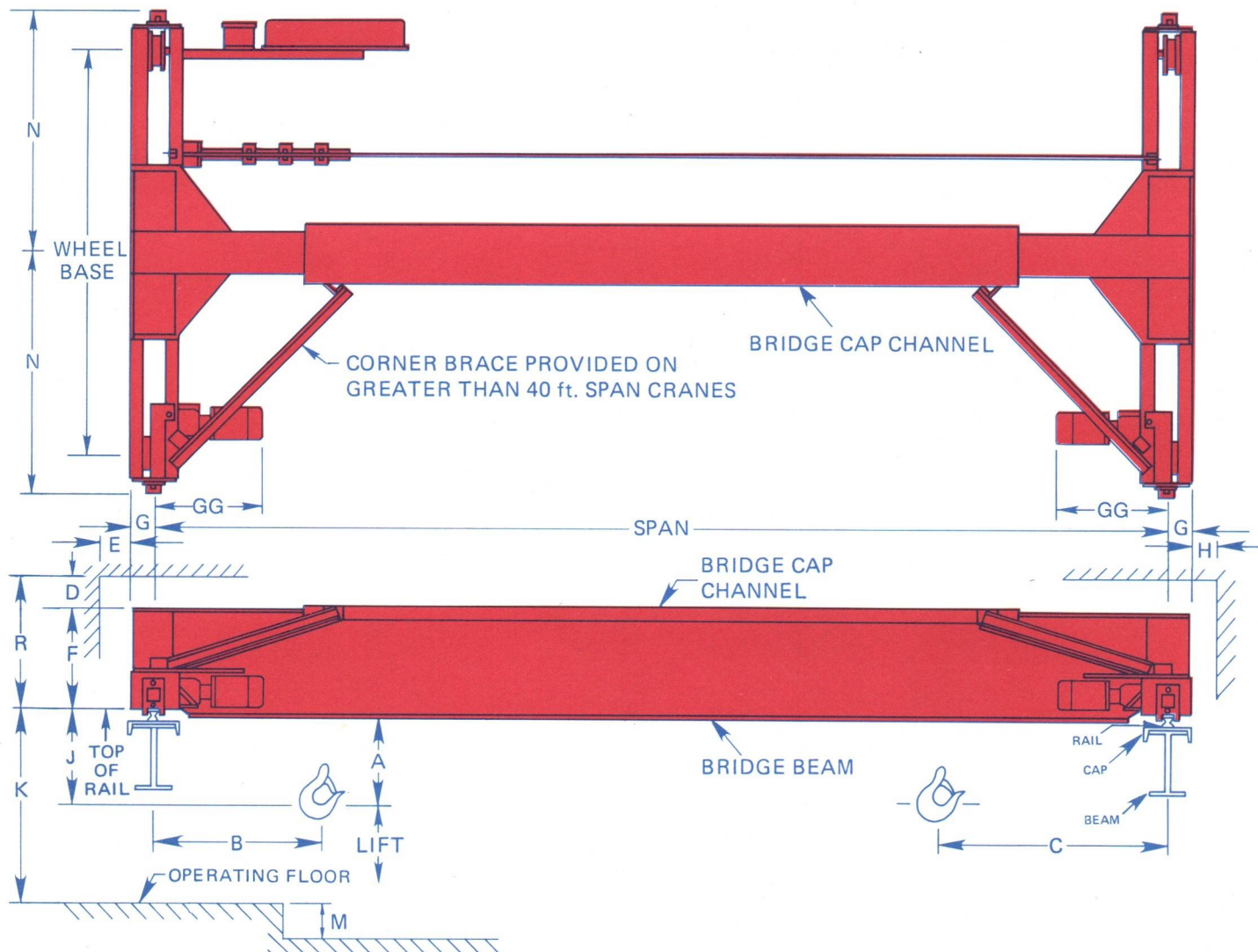
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SERIES 536 Top Running Single Girder Motorized Dual Drive
Crane For Electric Hoists
Replaces Series 533
53-19
Issued 1-4-88 Supersedes 3-15-86

**1 to 10
TONS**



Note: Left-hand runway is standard location of runway conductors.
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2" lateral and 3" overhead.

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CUST. ORDER NO. _____

ACCO QUOTE NO. _____

ACCO JOB NO. _____

DATE _____

CUSTOMER APPROVAL _____

DATE _____ SIGNATURE _____

CRANE PROD. NO. _____

CAPACITY _____

SPAN _____

LIFT _____

HOIST PROD. NO. _____

RUNWAY: _____

BEAM _____

CAP. CH. _____

RAIL _____

BRIDGE: _____

BEAM _____

CAP. CH. _____

WHEEL LOADING _____

POWER SUPPLY _____

A _____

B _____

C _____

D _____

E _____

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K _____

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WB _____

GG _____

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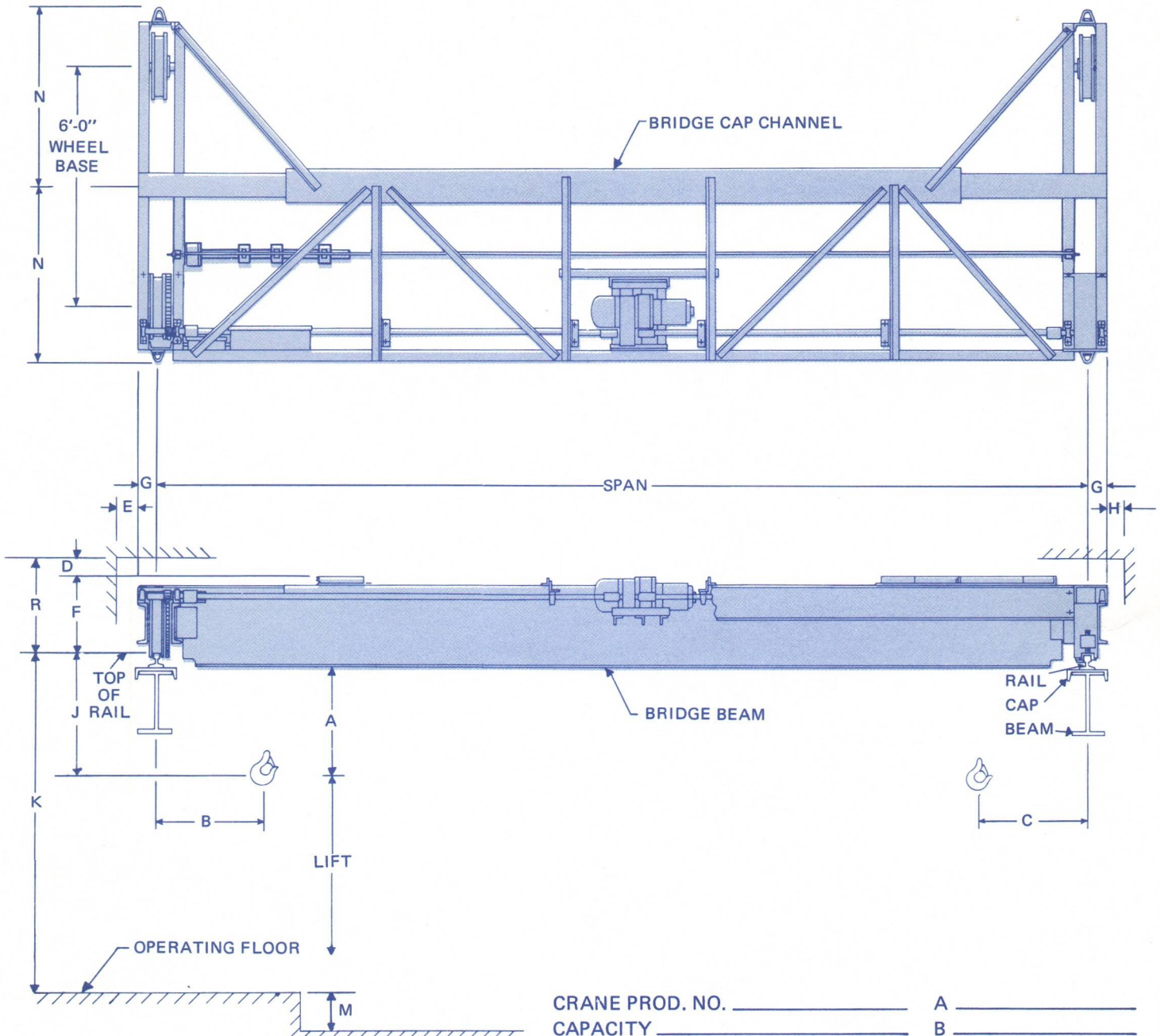
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**WORK-RATED® SERIES 534 TOP RUNNING SINGLE GIRDER
CRANE MOTOR DRIVEN—CENTER DRIVE**

53-20
Issued 10-30-87



Note: Left-hand runway is standard location of runway conductors.
Minimum OSHA clearance between crane and obstruction requires 2" lateral and 3" overhead.

CUSTOMER: _____

CUST. ORDER NO. _____

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ACCO JOB NO. _____

DATE _____

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Acco Products Division

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1110 E. Princess Street, York, PA 17403
Telephone 717 843-1523
FAX 717 846-5387 Telex 84-0411

CRANE PROD. NO. _____

CAPACITY _____

SPAN _____

LIFT _____

HOIST PROD. NO. _____

RUNWAY:

BEAM _____

CAP. CH. _____

RAIL _____

BRIDGE:

BEAM _____

CAP. CH. _____

WHEEL LOADING _____

POWER SUPPLY _____

A _____
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N _____
R _____

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Failure to comply with any one of the limitations noted herein can result in serious bodily injury and/or property damage.

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